

I claim:

1. A button assembly comprising:

a first cantilevered beam (30) having a first end and a second end, the first end being

configured to be attached to an electronic input device through a first fulcrum (28) at the first end;

a second cantilevered beam (36) having

an exposed button portion (37), the second cantilevered beam being attached

to the first cantilevered beam through

a second fulcrum (32).

2. The button assembly of claim 1 wherein the second fulcrum attaches the

second cantilevered beam to the first cantilevered beam at the second end of the first cantilevered beam.

3. The button assembly of claim 1 further comprising a plunger (20') attached

to the second cantilevered beam and extending from the second cantilevered beam through the first cantilevered beam.

4. The button assembly of claim 3 wherein the button assembly is molded from

plastic as a single piece.

5. A computer pointing input device comprising:

a housing;

a palm portion of the housing configured to receive a user's hand;

a distal portion of the housing extending generally away from the palm portion; and

a switch button having a palm end and a distal end, the switch button being

configured to actuate an electronic switch within the computer pointing input device upon

application of sufficient force to the switch button by the user, the switch button being movably

coupled to the housing so as to move about a fulcrum, the fulcrum being nearer to the distal end

than to the palm end of the switch button.

1           6.     The computer pointing input device of claim 5 wherein a first force is  
2 required to be applied to the switch button to actuate the electronic switch at the distal end and a  
3 second force is required to be applied to the switch button to actuate the electronic switch at the  
4 palm end, the first force being greater than the second force.

1           7.     The computer pointing input device of claim 6 wherein the first force is at  
2 least two times greater than the second force and a distance from the palm end of the switch button  
3 to the distal end of the switch button is at least 3 cm.

1           8.     The computer pointing input device of claim 7 wherein the first force is about  
2 1 Newton and the second force is about 0.5 Newtons.

1           9.     The computer pointing input device of claim of claim 5 further comprising:  
2 a spring beam having a first end and a second end, the spring beam being coupled to  
3 the switch button through the fulcrum at the first end and being coupled to the housing at the second  
4 end through  
5 a second fulcrum.

1           10.    The computer pointing device of claim 9 wherein a first force is required to  
2 be applied to the switch button to actuate the electronic switch at the distal end and a second force is  
3 required to be applied to the switch button to actuate the electronic switch at the palm end, the first  
4 force being greater than the second force.

1           11.    The computer pointing device of claim 9 wherein the first force is at least two  
2 times greater than the second force and a distance from the palm end of the switch button to the  
3 distal end of the switch button is at least 3 cm.

1           12.    The computer pointing input device of claim 11 wherein the first force is  
2 about 1.2 Newtons and the second force is about 0.6 Newtons.

1           13.    The computer pointing device of claim 9 wherein a first force is required to  
2 be applied to the switch button to actuate the electronic switch at the distal end and a second force is  
3 required to be applied to the switch button to actuate the electronic switch at the palm end, a

4 difference between the first force and the second force being equal to or less than 0.15 Newtons,  
5 wherein a distance from the distal end of the switch button and the palm end of the switch button is  
6 at least 3 cm.

1 14. The computer pointing device of claim 13 wherein the first force is between  
2 about 0.5-0.7 Newtons and the second force is between about 0.5-0.7 Newtons.

1 15. A computer pointing input device comprising:  
2 a housing;  
3 a palm portion of the housing configured to receive a user's hand;  
4 a spring beam flexibly coupled to the housing through  
5 a first fulcrum,  
6 a switch button having a palm end and a finger end, the switch button being flexibly  
7 coupled to the spring beam through  
8 a second fulcrum, the second fulcrum being nearer to the finger end of the switch  
9 button than to the palm end of the switch button;  
10 a plunger coupled to the switch button and extending toward  
11 an electronic switch, the plunger being configured to actuate the electronic switch  
12 upon application of a sufficient force to the switch button by the user.

1 16. The computer pointing device of claim 15 wherein the plunger extends  
2 through the spring beam.

1 17. The computer pointing device of claim 15 wherein a distance between the  
2 finger end of the switch button and the palm end of the switch button is about 3 cm and the  
3 sufficient force varies from a first force at the finger end of the switch button to a second force at  
4 the palm end of the switch button, the first force being greater than the second force by a factor of  
5 about two.

1 18. The computer pointing device of claim 17 wherein the first force is less than  
2 about 1.2 Newtons and the second force is less than about 0.6 Newtons.

1 19. The computer pointing device of claim 15 wherein the computer pointing

2 device is a computer mouse.

1                   20.    The computer pointing device of claim 15 wherein the spring beam has a first  
2 end and a second end, the first fulcrum flexibly coupling the spring beam to the housing at the first  
3 end of the spring beam and the second fulcrum flexibly coupling the spring beam to the switch  
4 button at the second end of the spring beam.